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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
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2193

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,601

Applicant(s)

YUCEL, SERMET

Examiner

Trenton J. Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-118 is/are pending in the application.
- 4a) Of the above claim(s) 44-118 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office action is responsive to communications filed 16 May 2005, in which the Applicant has elected Group I, claims 1-43 without traverse for further prosecution on the merits. Claims 44-118 have been withdrawn, and claims 1-43 have been examined on the merits.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1-43, drawn to a Meta Model for building a knowledge-oriented software application, comprising 5 separate and distinct models, classified in class 717, subclass 104.
 - II. Claims 44-60, drawn to a Meta Knowledge Model, classified in class 717, subclass 104.
 - III. Claims 61-79, drawn to a Meta Logic Model, classified in class 717, subclass 104.
 - IV. Claims 80-118, drawn to a Kernel of a Run-time Model, classified in class 717, subclass 104.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the independent

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claims of Invention I are directed to a model comprising 5 separate and distinct models, and do not require the specifics of the individual model as recited in the independent claim of Invention II.

4. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the independent claims of Invention I are directed to a model comprising 5 separate and distinct models, and do not require the specifics of the individual model as recited in the independent claim of Invention III.

5. Inventions I and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the independent claims of Invention I are directed to a model comprising 5 separate and distinct models, and do not require the specifics of the individual model as recited in the independent claim of Invention IV.

6. Inventions II, III and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. Each respective invention has utility as a model not requiring the specifics of the other models. See MPEP § 806.05(d).

7. Applicant's election without traverse of Group I, claims 1-43 in the reply filed on 16 May 2005 is acknowledged.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-43 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The invention as disclosed in claims 1-43 is directed to non-statutory subject matter. The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." (State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d at 1373, 47 USPQ2d at 1601-02.)

Specifically, independent claim 1 is directed to a Meta Model for building a knowledge-oriented software application, however, the limitations recited in the claim language merely disclose a number of individual models which make up the Meta Model. Furthermore, the additional models are simply presented as abstract ideas, and the claim does not recite any process by which the models are utilized to achieve the supposed "building" of a knowledge-oriented software application. Consequently, the claims are non-functional descriptive material which merely represent an abstract idea or concept, and do not impart a certain level of "real world" value or practical application for the claimed invention. The intended functionality of building a knowledge-oriented software application is merely an allegation towards functionality, as the claim do not disclose any details pertaining to the building of the software application. Thus, Applicants fail to disclose that the claimed models have practical applications which produce useful, concrete, and tangible results under the State Street Formulation.

Similarly, claims 2-43 do not set forth any additional functionality pertaining to the claimed

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steps in the independent claims, and are rejected for the same reasons.

Finally, claims 15-29 are rejected under 35 U.S.C. § 101 as being intangibly embodied. The claimed invention as a whole is directed to non-tangible material.

A computer readable medium having instructions thereon would normally be considered statutory *unless* the specification defines the medium as including *intangible media* such as signals, carrier waves, transmissions, optical waves, transmission media or other media incapable of being touched or perceived absent the tangible medium through which they are conveyed. The specification on page 44 describes “signal-bearing medium” as including “wireless communications.” As such, the specification defines “signal-bearing medium” to include intangible media such as wireless signals and transmissions, and as such, is considered non-statutory matter.

For these reasons, claims 1-43 are rejected under 35 U.S.C. § 101.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims appear to be directed to models utilized for the sake of building a “knowledge-oriented” software application, however, the independent and dependent claims relate only to models and their organizational structure, and impart no functionality towards achieving the goal of building a software application. Furthermore, the models comprise specifications dictating what the model can do, however, there is no information as to what these specifications are or how they are

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at all structured, and as such, it is indefinite as to what the models and their related specifications actually are.

The use of the phrase “knowledge-oriented” and of the nebulous term ‘knowledge’ renders the claims vague and indefinite, as there is no clear recitation in the claim language as to what constitutes ‘knowledge.’ Further, due to the indefiniteness of the word ‘knowledge,’ the phrase “knowledge-oriented software application” is highly indefinite, and does not enable a reasonable interpretation as to the structure of the software application.

The use of the phrase “physical implementation” in claim 31 is indefinite, as it is not clear in what context ‘physical’ refers to when dealing with computer software and objects, or how an object can have a “physical implementation.”

For these reasons, claims 1-43 are rejected under 35 U.S.C. § 112 2nd paragraph.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-43 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,374,252 to Althoff et al., hereafter referred to as Althoff.

Per claims 1, 2, 8, 15, 30-32 and 37-41 :

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Althoff discloses:

- a meta knowledge model comprising a specification of how the knowledge-oriented software application represents knowledge, wherein the meta knowledge model further comprising a Thing, a Key, a Fact, a Relation, and a Knowledge Definition (“receives the descriptive information about the user’s object database...” in col. 6 lines 48-49. The information contains things, keys, facts, relations, and definitions, and the objects have names.)
- a meta logic model comprising a specification of how the knowledge-oriented software application derives new knowledge, wherein the meta logic model further comprises an event, and event handler, and a relation function (“The meta-model 220 comprises a set of classes 101, a set of searchable properties 102 for each class 101, and a set of relationships 103 between classes 101, thus forming a system object database for recording information about the user’s object database 100...” in col. 10 lines 12-16. Further, note Table 3-1.)
- a knowledge definition model comprising a specification of how the knowledge-oriented software application is converted from a human-readable format to executable code (Note Figure 2, item 260, and the corresponding sections of the disclosure. The query model takes user commands and converts them into SQL commands.)
- a catalog model comprising a specification of how the knowledge-oriented software application organizes the knowledge within an electronic device (“meta-model relational database...” in col. 7 lines 58-62)
- a run-time model comprising a specification of how the knowledge-oriented software application enables concurrent clients to manipulate the knowledge stored in the electronic device (“the relational database engine 240 comprises a client/server, multi-user, networked

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architecture which uses a multi-user relational database engine, so that (1) a plurality of users 201 may operate on the relational database 250 simultaneously...” in col. 7 lines 36-45) substantially as claimed.

Per claims 3-7, 11-14, 16-18:

Althoff further discloses object-oriented representations of things, keys, facts, relations, functions for converting elements of the meta model to an implementation, actions, and queries as claimed (“object-oriented database to store, manipulate, or retrieve” in col. 5 lines 41-42. Things, keys, facts, relations, functions, actions and queries are part of the database.)

Per claims 9 and 10:

Althoff further discloses events comprising an object-oriented representation of functions and responses as claimed (“In response to a triggering event, the system 200 translates the user model 230 into a user relational database...for specifying and creating relational structures...” in col. 8 lines 18-21.)

Per claims 19-23:

Althoff further discloses a logical name and a name of a programming language for each object as claimed (“Each object of the class 101 component has a searchable property 102 ‘name’...” in col. 5 lines 53-55. The objects must be written in some programming language.)

Per claims 24 and 25:

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Althoff further discloses storing a declarative definition of the application and sets of classes as claimed (Note col. 7 lines 58-62)

Per claims 26-29:

Althoff further discloses object-oriented definitions of how the application can be accessed by concurrent users as claimed ("the relational database engine 240 comprises a client/server, multi-user, networked architecture which uses a multi-user relational database engine, so that (1) a plurality of users 201 may operate on the relational database 250 simultaneously..." in col. 7 lines 36-45)

Per claims 33-36:

Althoff further discloses keys and a plurality of subtypes of keys as claimed ("primary and secondary keys of those tables, and other defining features of the user relational database..." in col. 8 lines 24-25)

Per claim 42:

Althoff further discloses Fact Types as claimed (Note col. 4 lines 5-22)

Per claim 43:

Althoff further discloses an array of things as claimed ("into an array..." in col. 28 line 9)

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trenton J. Roche whose telephone number is (571) 272-3733. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Trenton J Roche
Examiner
Art Unit 2193

TJR


ANIL KHATRI
PRIMARY EXAMINER